Household Paint Management Guidance

Tennessee Department of Environment & Conservation
Division of Solid Waste Management
Household Hazardous Waste Program
July 2008

A. Background

The National Paint and Coatings Association (NPCA) estimate that there are 3 cans of leftover paint in every household in America. Managing this leftover paint can be a challenge for many counties and municipalities. Currently landfills and transfer stations in Tennessee will not accept individual paint cans that contain liquid paint. Paint in liquid form has the potential to leach out of landfills and septic systems into groundwater. The Division of Solid Waste Management (SWM) sponsors a safe alternative for disposal of paint through the Household Hazardous Waste (HHW) collection program. Currently paint constitutes 50-60 % of all materials collected at HHW events. In addition, latex paint is non-hazardous. Disposal is costly when processed through the Household Hazardous Waste Program. SWM has put together some options for county solid waste authorities to make it more convenient for citizens to dispose of their household paint in an environmentally safe manner. This document presents guidelines for paint pre-collection, exchange, consolidation, solidification and basic consumer tips for keeping paint out of the waste stream altogether. Through better management of paint, funds will be available to host events in more counties.

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B. Pre-Collection:

A paint pre-collection program is a county service to provide an environmentally safe method of disposing old paint (latex and oil-based) by collecting it at a secure site on a year-round basis. The county must check with the local SWM field office for any possible permit modification before starting the pre-collection process. The County must also notify the HHW program at the SWM Central office to discuss the program and plan for any disposal needs. If approved, paint pre-collection may take place at a sheltered convenience center, transfer station, recycling center, landfill building, or mobile collection center. For the safety of county workers, citizens, and state contractors, the following guidelines are put forth by SWM for counties that choose to pre-collect paint.

There must be enough employees on-site to assist with paint collection/exchange during operation hours.

Only collect household paints in quarts and in 1, 2, and 5-gallon containers. Collection should only be done in the original containers.

Do not collect aerosols, varnishes, thinners, stains, industrial coatings or any other household hazardous waste. These substances are hazardous and should only be handled by a certified hazardous waste handler under the right conditions.

Paint donors must sign-in listing their name, address, and number of cans of paint donated, certifying that the paint donated is not from a business or contractor. Pre-collection participants may also be included for HHW event participation numbers.

Paint may not be collected from any painting contractors or businesses. This paint is considered regulated waste, which falls outside the scope of the HHW collection program.

One week before the HHW collection event or when the county has collected a full load, the county must coordinate how the contractor will pick up the pre-collected oil-based paint.

Once paint is collected it must be separated according to type (latex or solvent based). The easiest way to identify the paint type is to read the label. The terms alkyd or oil-based refer to solvent based paint while water-based paint or water clean up refers to latex. Paint should be kept out of the elements and away from any heat sources. Paint should be left in original containers and neatly stacked in a storage container lined with plastic to avoid spills. Cubic yard boxes lined with plastic are recommended for storage purposes. These are available to your county from the HHW contractor.

C. Paint Exchanges and Reuse:

Many times paint that is brought in to a pre-collection program is fairly new and still useful. In addition modern latex paint is not considered hazardous and can be safely reused. Consumers and other entities should use leftover paint in order to lower disposal costs. The easiest and least expensive method of reusing paint is through paint exchanges. Exchanging of leftover paint involves picking out the paint that is reusable and giving it in original containers to citizens or worthwhile organizations. In an effort to divert paint from the waste stream altogether, this section identifies some guidelines for making good paint available for reuse.

Find a Steady Market

The success of a paint exchange program depends largely on finding a market for leftover paint. It is important to advertise about the availability of post-consumer paint to county citizens and local non-profit organizations. It would be very worthwhile to create contacts with groups/organizations that would be regular customers of the paint. The following is a list of community organizations that may be a market for leftover paint.

Theater Groups, Fix-Up Projects, Anti-Graffiti Programs
Churches
Non-Profit Organizations (Boy/Girl Scouts, YW/YMCA, Salvation Army, Goodwill, Habitat for Humanity, 4-H Clubs)
Multi-family Housing Associations
Local, State and Federal Government Buildings and Maintenance Departments
Contractors
Parks, Schools, Colleges, and Universities
Military Bases, Prisons,
Property Management Companies, Fire Departments
Fairgrounds, Athletic Fields, Golf Courses, and Stadiums

Consolidation requires a minimal amount of equipment and is relatively inexpensive.

Collecting and Sorting

Once a market has been found for leftover paint then the process of collection for reuse can take place. There are two separation schemes involved with the collection of paint for reuse. The first is to separate paint into usable or unusable. Leftover paint should carefully be inspected to determine if it is still usable. Paint is considered reusable if:

1. At least one-third of a gallon remains in the original container;
2. The label is still intact; and
3. The paint has not been frozen or contaminated.

Unusable latex paint should be solidified and thrown away. Unusable oil-based paint or any paint where the label is painted over or missing should be placed in lined cubic yard boxes provided by the HHW contractor. To schedule a pick up for oil-based paint contact the HHW Coordinator. Reusable paint (oil-based and latex) can be left in the original can and given away for reuse to homeowners or any of the organizations listed above. People will sometimes put other household waste in paint cans such as oil or waste cleaners. These substances can be hard to detect. Therefore, it is important to recommend that all paint given away be used on exterior surfaces. Picking out useable paint for reuse may dramatically decrease the amount of leftover paint entering the waste stream.

Paint Consolidation

Paint consolidation generally produces a relatively low-grade 100-percent recycled paint. Consolidated paint is suitable for non-critical projects such as graffiti abatement, barns, tree houses, garages, or a primer for larger paint jobs. Consolidation should be attempted only when a market has been found that will agree to take a large amount of paint. The paint would have to be separated into latex and solvent–based according to the label. Only the latex paint is considered applicable for consolidation. According to the NPCA, latex paints are not hazardous and can be reused. Consolidation of solvent-based paint is not recommended because of complexities and incompatibilities. However, some counties have had success in consolidation of oil-based paint. Many are painting the inside of their recycling and solid waste containers to extend the life and cover rust. For more information please contact the HHW Coordinator.

Consolidation requires a minimal amount of equipment and is relatively inexpensive. In order to make the paint more appealing for end users it is advised to separate colors into dark, light, and white. Colors that are alike should then be poured through a filter or a screen and into 5-gallon buckets. Care should be taken when mixing red paint with other colors due to its dominant nature. The paint should be stirred to obtain consistency and tested to ensure that the consolidated latex is not contaminated. If testing is not perfomed, the

consolidated paint should be labeled “For Outdoor Use Only”.

Facilities with adequate ventilation can be the site of paint collection and consolidation provided that the paint is kept out of the elements and away from heat sources. Empty paint cans are made of high quality steel. They should be recycled if they are empty and the paint residue is dry.

Paint Solidification

Paint solidification generally produces a large volume of paint related waste that ends up being land filled. The paint would have to be separated into latex and solvent-based according to the label. Only the latex paint is considered applicable for solidification. Containers filled with an absorbent material, such as shredded mulch, sawdust, or wood chips, may be used to accelerate the solidification process. Latex paint is not hazardous and can therefore be safely land filled once solidified. Solidification of solvent-based paint is not recommended because of complexities and incompatibilities. Often empty and dry paint cans may be recycled with scrap metal.

D. Summary:

By conducting paint pre-collection, exchange, consolidation, and solidification municipalities can decrease the amount of paint for disposal by 25% or more. The program can only be successful through adequate advertising and community participation. Once reusable paint is collected it should be made available for citizens and non-profit organizations. Paint exchanges and consolidation can be a great service to county citizens however they do require a small amount of effort and participation. The Division of SWM is constantly seeking programs to promote waste reduction. These programs should be successful if they are well managed and advertised.

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Household Paint Management Requirements

POLICY

Background

Tennessee's Household Hazardous Waste (HHW) Collection Program is sponsored by the Division of Solid Waste Management (SWM). Currently, paint constitutes 50-60 % of all materials collected at HHW events. SWM believes that this waste can be safely managed by local government and thereby free up additional money for the HHW program.

This document establishes the regulatory requirements for counties involved in household paint collection and handling.

Collection

One likely collection point will be an existing, permitted solid waste facility. This may be a convenience center, transfer station, solid waste processing facility or a landfill. In this scenario, the owner should amend the permit to explain where and how paint collection will take place. This permit amendment will be considered a minor change and will not be subject to fees.

A second possibility is that the collection point will be at a location that is not a permitted facility. This includes recycling centers and maintenance shops. No permit requirement exists for this option. The county should notify the SWM field office of the collection point.

Paint Handling and Processing

Household paint may be given away, or consolidated (blended) for reuse without any additional permit requirements.

Household latex paint that is not reused may be solidified for disposal. Household oil-based paint that is not reused may be placed in lined cubic yard boxes (supplied by the state's contractor) until picked up by the contractor for disposal. This operation may be performed at an existing, permitted solid waste facility. This may be at a convenience center, transfer station, solid waste processing facility or landfill. This will require an amendment to the permit but not require a separate permit. This will be a minor permit change and not subject to fees. If solidification is to be performed at a location that is not currently permitted, a separate permit-by-rule application must be submitted to SWM with the appropriate fee.

[Signature on File] 09/12/06

Mike Apple, Director — Date

Division of Solid Waste Management

Paint Recycling Equipment – Priority Two Consideration

Large Scale

Operation: Latex paint would be reconditioned to produce a high quality, versatile product and result in a very significant reduction in the volume of latex paint that needs to be disposed. In addition, the program would have a reuse area for citizens to claim usable oil based paint that is kept in its original container. The remaining oil based paint would be handled by the State's HHW contractor. Waste latex is dried and land filled or incinerated or beneficially reused as in a Portland cement additive. No latex paint will be handled by the State's contractor. This operation should be processing a minimum of 10,000 pounds of paint a year. The price range for this operation should be from $10,000 to $20,000 depending on the size of the operation.

Equipment: The key difference from this type of operation and other paint recycling operations is a mixing vat and a high speed mixer. Other necessary equipment includes a pump for high viscosity liquids, several 55 gallon drums, and screens for the drums. Other potential equipment includes an air compressor, one or more can opening machines, and one or more can crushers. The mixing vat could be one designed specifically for paint or one designed for other purposed such as dairy vats or jelly mixing tubs. Shelving is needed for distribution of paint to the public.

Medium Scale

Operation: Oil-based and latex paints are segregated. Usable oil-based paint is set aside for the reuse by local government or the public. Unusable oil-based paint is boxed for pick-up by the mobile HHW contractor. Latex paint is segregated by color into 55-gallons drums. A mixer designed for this purpose is used to blend the paint in the drums. No additives are used in this process. The paint is then pumped through a filter into pails and labeled for reuse. The paint that is produced is typically of a lower quality and fewer color varieties than reconditioned paint, but can still be used for a number of uses such as graffiti abatement, outdoor applications such as fences and picnic shelters, as well as exterior use for homes. Waste latex is dried and land filled or incinerated. The State's HHW contractor will not handle any latex paint. This operation should process a minimum of 500 pounds of paint a year. The price range for this operation is from $500 to $2000.

Equipment: This type of operation would require 55-gallon drums with special screen tops manufactured, a drum mixer, and a pump for high viscosity liquids. Other potential equipment includes an air compressor, a can opening machine, and a can crusher. Shelving is needed for distribution of paint to the public.

Small Scale

Operation: Oil-based and latex paints are segregated. Usable oil-based paint is set aside for the reuse by local government or the public. Unusable oil-based paint is boxed for pick-up by the mobile HHW contractor. Latex paint is segregated by color into 2-5 gallon buckets. An electric drill with a paint mixer attachment is used to blend the paint in the buckets. Once the bucket is full of the desired color, place a lid on the container and indicate the color by daubing some paint on the lid. No additives are used in this process. The paint that is produced is typically of a lower quality and fewer color varieties than reconditioned paint, but can still be used for a number of uses such as graffiti abatement, outdoor applications such as fences and picnic shelters, as well as exterior use for homes. Waste latex is dried and land filled or incinerated. The State's HHW contractor will not handle any latex paint. This operation should process a minimum of 200 pounds of paint a year. The price range for this operation is from $500 to $1000.

Equipment: This type of operation would require 2-5 gallon buckets with lids, an electric drill with paint mixing attachments, a flathead screwdriver/paint can opener, and an extension cord.

Summary

Large Scale
Process at least 10,000 pounds of paint per year
Costs $10,000 to $20,000
Necessary equipment- large mixer, large vat, 55-gallon drums, screens for drums, pump, shelving
Optional equipment- can opener(s), can crusher(s), air compressor
Supplies- paint additives, paint filters, colorants, paint buckets, and paint labels,

Medium Scale
Process at least 500 pounds of paint a year
Costs $500 to $2000
Necessary equipment- drum mixer, 55-gallon drums, screens for drums, pump, shelving
Optional equipment- can opener, can crusher, air compressor
Supplies- 5 gallon buckets with lids and labels for buckets

Small Scale
Process at least 200 pounds of paint a year
Costs $500 to $1000
Necessary equipment- electric drill, flathead screwdriver/paint can opener, extension cord
Supplies- 2-5 gallon buckets with lids